

REMARKS

In the above-identified Office Action the claims were again rejected as being obvious, wherein a newly cited reference, Kitahara, is relied upon for disclosing a major difference between the claimed invention and the prior art. That is, Kitahara is relied upon as disclosing the detection of a movable lower surface of a liquid bag. As discussed herein, Kitahara does not provide such a disclosure.

Applicants' invention, as depicted in Fig. 1, provides a bag for containing the liquid to be discharged by a liquid ejection head. The bag has two opposite sides, wherein the first side (3), which faces in a direction opposite to the direction of gravity (ie., the upper side), is rigidly held, at least partly, as illustrated, and the other side is freely movable. As a result of this structure the liquid head between the bag and the ejection port does not change as the liquid is discharged from the bag. The benefit of this structure is demonstrated by a flat pressure curve, as depicted in Fig. 4, as the bag is emptied.

In distinction from this claimed invention is the prior art as shown in Fig. 2 of Applicants' drawings and as shown in each of the three references relied on as rejecting references in the Office Action. In none of those disclosures is the upper face of the bag rigidly held.

Referring specifically to each of the references relied upon by the Examiner in rejecting independent Claim 1, Applicants' note the Examiner's apparently-intended acknowledgment that the cited Kaneko patent does not disclose that its ink bag (a) has a fixed side facing opposite to the direction of gravity (ie., its upper side), nor (b) a detecting means for detecting the amount of liquid in the bag by detecting movement of the free side (the lower side) of the bag (see the paragraph bridging pages 2 and 3 of the Office Action.)

To overcome these deficiencies of Kaneko as a rejecting reference the Office Action relies on the Yamazaki reference as disclosing “said liquid bag (1) being so arranged as to make a side of said liquid bag facing a direction opposite to the direction of gravity out of two sides(11) having a largest area to be rigidly held at last partly and the other side to be freely movable.”

On the contrary, however, Yamazaki does not provide such a disclosure. Instead the drawings of Yamazaki show a liquid bag having as a movable side the side 16a facing a direction opposite the direction of gravity. This is exactly the opposite of what is claimed by Applicants, wherein it is the fixed side which is required to be so disposed. Accordingly, Yamazaki is like the prior art shown by Applicants in Fig. 2.

Similarly, the newly cited Kitahara reference, while failing to disclose a fixed upper side of the liquid bag, also fails to disclose the claimed means for detecting the amount of remaining liquid by detecting the position of the movable lower side of the bag. Again, Kitahara provides the same disclosure as the prior art Fig. 2 of Applicants drawings wherein it is the position of the movable upper surface of the bag which is detected. See for example, Fig. 2 of Kitahara wherein the solid lines show the position of the element 5a disposed on the movable upper surface, and wherein the dotted lines show the element 5a when the position of that upper surface has moved downward as the liquid is depleted. Fig. 3 of Kitahara also shows a detector arm 40 that moves with the movable upper face from the dotted line depiction to the solid line depiction.

The foregoing analysis of the cited prior art demonstrates that the prior art disclosed by Applicants in Fig. 2 of the drawings provides a teaching of similar concepts,

and that Applicants' invention provides a clear patentable advance over such prior art as demonstrated by the graphs of Figs. 4 and 5. Applicants invention provides the flat pressure curve as shown in Fig. 4, while the prior art provides the varying pressure of Fig. 5.

Accordingly, it is respectfully submitted that Claims 1 and 2 are allowable over the prior art, and the issuance of a formal Notice of Allowance is respectfully requested.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address given below.

Respectfully submitted,


Attorney for Applicants

Registration No. 24,613

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3801
Facsimile: (212) 218-2200